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"Morbus est conamen Naturæ, quæ materiæ morbificæ exterminationem in ægri salutem molitur."—SYDENHAM.

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world are teeming with articles on the *bacillus tuberculosis*; the treatment of that dread disease, tuberculosis, and the most efficient measures against its spread through the channels of heredity and contagion.

Since it is positively demonstrated that tuberculosis *is* contagious; and since the knowledge of the manner by which the tubercle bacillus gains ingress into the system is so precise, so definite, it is surprising that so little is being done in hospital and private practice along the line of preventive treatment.

The source of contagion is, in practically all cases, the sputum—the prevention of contagion,—in the prompt disinfection or destruction of said sputum.

It is widely known that the expectorated product, becoming dried and crumbled into an impalpable dust, floats about the atmo-

The various medical journals distributed over the length and breadth of the civilized

Editorial.

sphere, impregnated with myriads of bacilli. In this fit condition it is inhaled by attendants or nurses, or, constantly settling about upon the walls, floor, furniture and bed-clothing, it accumulates by fresh additions and remains in *innocuous cesuetude*, only, until perchance, the thrifty maid with her broom and duster sends it into the air again, a menace to the lives of those about. Moist sputum is not dangerous because the muco-purulent discharges surround and hold down the bacilli; but, into whatever receptacle the sputum is received the danger increases with the length of time it remains there. Evaporation is continually taking place, drying the sputum, and furnishing wings to the playful bacilli for their contemplated ariel flight.

Disinfection of tuberculous sputum is extremely difficult. Heat, at the boiling point of water, is effectual only after its most thorough application. Ordinary germicides, in ordinary strengths, fail to annihilate the tough little customer whose tenacious vitality is wonderful. Corrosive sublimate, in strong solution, is useless from the fact that the mercury, of the compound, unites chemically, with the albuminous mass, enveloping and surrounding the bacilli, rendering the bacillicidal power of the bi-chloride *nil*. Allow me to formulate a few rules:

1. Always impress the patient with the necessity of using a single vessel for the reception of the sputa, and, not to spit at random first into one receptacle, then into another and then on the floor or into a handkerchief. Let all the discharges be caught and retained for disinfection or destruction.

2. The sputa should never be emptied without disinfection or destruction.

3. Absolute destruction of the sputa at frequent intervals is the most scientific, as well as the most practical, and least expensive operation. Destruction is most conveniently accomplished by emptying the discharges onto fire.

4. After the sputum is destroyed see that the vessel is first disinfected by being immersed in a powerful antiseptic, or better, if the material will permit, sterilized by heat of sufficient intensity (at least 100° C.); then carefully cleansed before being used again.

5. The floors, walls and furniture should be mopped with cloths dampened in an antiseptic solution. The floor of the sick room should never be swept, especially when dry. If the floor is uncarpeted it should be mopped quite frequently.

6. The bed-clothing and clothing of the patient, should be changed almost daily and should be washed separate from other bed-clothing and clothing.

These ideas are not original with me but they are of such vital importance that the writer thinks himself excusable for rehashing them.

F. S. H.

THE forty-ninth annual meeting of the American Medical Association is a thing of the past, but for four days our beautiful city surrendered itself completely to members of the profession. The general sessions were held at the Detroit Opera House at eleven o'clock every morning, and the rest of the day was occupied by the meetings of the sections, in various parts of the city. The evenings were devoted to social pleasures, there being a reception at the Light Infantry Armory, and at the residences of H. S. Pingree, George S. Davis, Frederick Stearns and Gen. R. A. Alger. The meetings of the different sections were of great interest, and were invaluable in their teachings. The discussions were at all times earnest and instructive. The efforts of the profession in Detroit to make the meeting a pleasant one seemed to be thoroughly appreciated by the visitors, who were loud in their praises of Detroit's beauty and hospitality.

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WHEN sulphur is burned in the atmosphere the result of the combustion is the formation of sulphurous oxide, having the chemical formula SO_2 . This is the gas so generally employed for the disinfection of rooms (and their contents) where there have been contagious diseases. The gas is supposed to permeate the atmosphere, to attack all exposed surfaces and penetrate into the interstices of the fabrics and finding the germs in their holes to slaughter them by the wholesale.

This same gas is employed extensively for bleaching purposes, especially for the whitening of straw goods. It is to be remembered, however, that the gas does not bleach, if the surrounding atmosphere is dry or the goods are not previously dampened.

The explanation is simple; the gas SO_2 does not bleach of itself, but if there is sufficient moisture present it unites chemically with the water and forms a new compound which is capable of bleaching the articles. It is almost an axiom in chemistry that if you can deprive a molecule of one of its constituent atoms the whole group or arrangement of atoms (molecule) tumbles to pieces and new combinations, made up from the liberated atoms, ensue. The SO_2 gas is not capable of decomposing the atomical arrangement of the molecules on the surfaces of the straw goods, but on uniting with water the combination is fully able to accomplish this desired result, and the resulting compound is of a whiter color than the old; thus the *modus operandi* of the bleaching process.

Can we not infer that the sulphurous oxide is of inferior chemical activity and likewise of inferior germicidal power, to the combination of the gas with water?

Sulphurous oxide unites chemically with water with great avidity and *always* when brought into the immediate presence of it. The combination ensuing is called sulphurous acid having the formula, H_2SO_3 . The re-action may be expressed: SO_2 (sulphur-

ous oxide)+ H_2O (water)= H_2SO_3 , sulphurous acid. Sulphurous acid is known to have great germicidal power and disinfecting action.

The practical point I wish to make is the feasibility of impregnating the atmosphere with aqueous vapor, when burning the sulphur, so that the chemical change from sulphurous *oxide* to sulphurous *acid* may take place and, greatly, to my way of thinking, increase the disinfecting action of the process.

This could be done by placing a shallow (evaporating) pan containing water over a spirit flame previous to the commencement of the process of sulphur burning. The walls, floors and furniture and clothing, etc., could be dampened slightly. If the sulphur burning is started before the evaporating process the SO_2 is liable to put out the fire as it extinguishes flame. Any number of ways could be arranged to surcharge the air with the vapor of water and any way would answer.

F. S. H.

BELLADONNA.

Its Therapeutic Value in Afterpains.—A Case in Practice.

BY M. V. MEDDOUGH, M. D.

Among the many complications and annoyances which sometimes follow delivery, and which demand the attention of the obstetrician, none will be more difficult to treat than the violent uterine contractions which frequently follow the birth of the child, and the removal of the placenta.

It is true, a certain amount of uterine muscular contraction is absolutely necessary. But who has not met with cases where the contractions were so vigorous as to exclude all idea of needed rest and sleep to the already exhausted mother? Here, then, is our art needed, and in answer to our patient's inquiry: "Doctor, can you not do something for these terrible pains?" we begin to hastily review our therapeutic

knowledge and select that remedy which seems to be most applicable.

Many drugs there are which ordinarily might be used to allay undue muscular contraction, but conditions are vastly different here. A radical interference with Nature's code of regulations at this time would be disastrous. Hence, the necessity of a most careful selection of the proper medicinal agent.

In the whole field of *Materia Medica*, perhaps no other drug has so much to commend and so few objections to its use as belladonna. The alkaloid atropia being the form generally used.

The most happy results are secured by combining the alkaloid with minute doses of morphia. No matter what peculiar idiosyncrasy the patient may possess when either drug is administered separately, no unpleasant symptoms appear when the two alkaloids are combined. It is not necessary to produce the full physiological effects of the drug. The smallest dose necessary to secure the desired result should be used. Minute doses at first and gradually increased. One or two doses usually bring a refreshing rest to the patient and words of gratitude to the attending accoucheur.

In connection with the administration of atropia it might be well to remember that some are peculiarly susceptible to its action. To illustrate, will quote a case in practice:

Mrs. A., aet. 27. Multipara. Previous history, last child born six years before. Instrumental delivery. For first two or three days violent after pains, sufficient to produce almost complete exhaustion. Tardy convalescence.

At the time I was called, patient had been in labor 10 or 12 hours. Found os partially dilated. Normal presentation.

Pains increased in force, and soon head was in cavity of pelvis. Here, however, notwithstanding the uterine walls exercised the most vigorous expulsive force, all progress ceased.

This condition continued for three hours at which time Dr. Wyman was called in consultation, and it was deemed advisable to deliver with forceps.

Patient anæsthetized. Delivery effected with no laceration or injury to mother or child. After removal of placenta, the patient attempted to sleep, but before this could be accomplished the uterine walls began to contract, and soon assumed all the vigor and power of labor pains. The patient became alarmed lest she should be obliged to pass through a season of torture similar to that of six years previous.

Before returning to the office, half a dozen granules of atropia and morphia were ordered and the nurse instructed to give one every three hours, until relieved. Each pill contained atropia grain $\frac{1}{300}$ and morphia gr. $\frac{1}{24}$.

An hour later I was hastily re-summoned. The husband stating that Mrs. A. was becoming paralyzed, and that a peculiar eruption had made its appearance on the skin. It never occurred to me at the time, that the minute dose of atropia had produced the condition. However, as Columbus explained the variation of the magnetic needle in a manner satisfactory to his listeners but not to himself, so did I to the husband.

Arriving at the bedside, one glance told the story. The face and chest were covered with a beautiful scarlet colored eruption quite similar to that of scarlatina, the throat dry, pupils dilated, and all of the characteristic physiological effects of belladonna. It is needless to state that these symptoms disappeared shortly, and soon our patient was enjoying a refreshing sleep.

The next day another pill of same strength was administered with exactly similar results. From this time there was no return of the difficulty, and patient made a speedy and excellent recovery.

The point of interest in the case quoted is the minuteness of the dose of atropia that produced the full physiological effect.

HYPODERMATIC INJECTIONS OF STRYCHNINE IN PNEUMONIA.

BY E. T. MILLIGAN, M. D.

Tiny J., aged 7 years.—Called to see this patient May 2nd. Found on inspection deficient expansion on left side and on percussion Skoda's resonance. The breathing was suppressed and on auscultation at the end of each inspiration fine crepitant rales of a cracking sound were audible when a full breath was drawn. The pulse was 118, but full and bounding and on applying the hand over the heart the shock or impulse was stronger than normal. The fever registered 103° F. I directed the mother to envelop the child's breasts in a flax seed poultice. I wish to say in regard to the use of a poultice in pneumonia that I believe a padded flannel jacket gives as good results. But the laity have a firm belief in the virtue of a poultice and it is not wise to combat their views in regard to their use in pneumonia. The pulse and temperature on the third, fourth, fifth and sixth days varied but little. On the morning of the seventh the pulse went to 195; temperature 106° F.

The second sound over the pulmonary artery became very indistinct. The dilation of the right side of heart caused the long pause to be shortened, causing more of a foetal heart sound (embryo cardia) in character. I prescribed the carbonate of ammonia in solution, but found it caused such an intense headache that I had to discontinue its use. I then prescribed alcohol 3v, simple elixir 3iii, teaspoonful in milk every three hours. The alcohol improved the tone of the heart somewhat. On the morning of the eighth the heart gave every sign of collapse, I crowded the alcohol but it did not give me the desired result, I saw the patient had but a short time to live, I called up General Hypodermatic Needle to despatch Strychnine to the rescue. I gave an injection of $\frac{1}{100}$ of a

grain of strychnine and as this amount caused no effect I gave another injection of $\frac{1}{100}$ of a grain. In about ten minutes after last injection the second sound of heart increased, the pause between the beats lengthened, the pulse reappeared at the wrist and the circulation improved visibly. I administered a hypodermatic injection of $\frac{1}{100}$ grain of strychnine every five hours until 12 p. m. when the crisis occurred and the patient entered into a rapid convalescence. It is an established fact that pneumonia is a self limited disease, it runs its course independent of treatment, and cannot be averted. Death is caused by extreme distension of the right side of heart. If the heart can be sustained, the fever is of secondary importance. It is now admitted that the diplococcus of pneumonia does not of itself produce pneumonia, as it is found in the sputa of healthy individuals. The diplococcus produces a ptomaine, which, when it enters the circulation causes the elevation of temperature, a further chemical change takes place and a second substance, an anti-ptomaine is formed which antidotes the first poison. As a result we have the crisis. The number of so-called cases of double pneumonia reported are I believe errors in diagnosis. Pneumonia in one lung causes a congestion of its fellow, not an inflammation. I do not favor the use of the preparation of ammonia in pneumonia, its only use is to liquefy the blood and cause a disintegration of the red blood corpuscles. Blotches do not form in the heart in pneumonia; the distension of the right chambers of the heart strangles the pulmonary circulation. I found in this case that strychnine is the only heart tonic in pneumonia. Alcohol, so much vaunted for its lightning qualities, seemed to have no control whatever. I did not use expectorants as I regard them of no value in pneumonia. For the pain and cough I gave Dover's powders.

SUDDEN OEDEMA OF THE UVULA.

BY FRANK S. HOUGH, M. D.

One evening, recently, a Polander was ushered into my office accompanied by his little daughter.

He was making visible efforts to breathe and his face depicted suffering. I asked him what was the matter and he, after an ineffectual attempt to talk, pointed to his throat while his little girl proceeded to relate his trouble.

He was in the act of eating hickory nuts when suddenly his breathing became extremely difficult and he could not talk.

His family, who were assembled about him, became alarmed lest a shell or piece of kernel had gone down the wind-pipe, and, led by the little girl, he came at once to my office. From the circumstances related by the child, I, of course, before examining the throat, concluded that there was a foreign body in the respiratory tract.

On examination imagine my surprise to find a large oval tumor, resembling on closer examination nothing so much as what we call a "fish bladder", the balloon filled with air to float the fish. The tumor was the size of a large hickory nut and the distention of its parietes was extremely marked. It fairly glistened, such was the stretching process, to which its walls were subjected. With a pair of dressing forceps I lifted its most dependent portion forward, and the sudden relief to the patient was very noticeable. He experienced relief and could breathe easily as long as I raised the mass occluding the entrance of air to the trachea. By this time the true situation presented itself to me. I saw now that the uvula was oedematous to such an enormous degree that it bore no resemblance, whatever, to that organ.

With a sharp tenatome I divided the tissues downwards through the former apex. The hemorrhage was not material. I gave him a strong solution of tr. chloride of iron, to gargle his throat at intervals and

informed him I would see him in the morning.

At an early hour, before I had arisen, the little girl returned and said that her father was all right and was preparing to go to work.

In my experience this case is unparalleled for the extreme suddenness of the oedematous swelling, and its cause is yet a mystery to me.

A CASE OF INFLAMMATION OF THE GALL BLADDER.

REPORT OF AUTOPSY BY CARVL B. STORRS, M. D.

Mrs. S., aet 54.—The history of this case is as follows: About three years ago, the patient, then 51 years old, complained of pain in the right hypogastrium. This pain continued obstinately, and the patient showed the characteristic symptoms of jaundice, the eyes and then the skin taking on a yellow hue, which grew more and more intense. About six weeks ago the patient began to have attacks of weakness, during which the vital forces seemed to sink to the lowest ebb. These would occur every two or three days, and finally, on the 31st of May, the patient died.

An autopsy was made about 40 hours after death. The abdomen was greatly enlarged and resembled that of a pregnant woman at about seven months. An incision was made from the symphysis pubes to the ensiform cartilage. There was a layer of adipose tissue about half an inch thick which was also deeply stained with the yellow coloring matter. On entering the cavity of the abdomen the stomach was found to be enormously dilated. A large amount of fluid, of a purple color, was found in the abdominal cavity, which was allowed to drain away. The liver was slightly enlarged and showed evidence of extensive disease. Its surface was harder and not so smooth as normal, and an incision into its substance revealed numerous small cysts. There were extensive adhes-

ions between the duodenum, transverse colon, ductus communis choleducus, and gall bladder. The gall bladder and duct were found to be filled with light, yellowish gall stones, 14 in number. The walls of the gall bladder were greatly thickened and of a lighter color than common.

SURGICAL CLINIC.

BY HAL. C. WYMAN, M. SC., M. D., PROFESSOR OF PRINCIPLES AND PRACTICE OF SURGERY IN THE MICHIGAN COLLEGE OF MEDICINE AND SURGERY, DETROIT, SURGEON TO THE DETROIT EMERGENCY HOSPITAL, ETC.

Reported by Caryl B. Storrs, M. D.

CASE I.—BULLET WOUND OF FRONTAL SINUS.—Mr. A. H., aet 67, was brought to the hospital with the following history: Had been in poor health for a number of months, and had at intervals exhibited some evidences of mania. He had attempted suicide with a revolver, and was brought into the clinic with a wound over the inner angle of the left orbit, in the frontal bone. It was found that the ball had entered the frontal sinus and had flattened against its posterior wall. The ball was removed, and the wound dressed, antiseptically. Later a piece of necrosed bone was removed from the wound which was was dressed daily until healed.

CASE II.—AMPUTATION OF RIGHT ARM AT SHOULDER.—Courtney F., aet. 13 while playing ball near the railroad crossing was struck and knocked down by a freight train, the wheels passing over the right arm, destroying the bone and blood vessels, and nearly severing the arm from the body. He was brought to the hospital in the ambulance, and the arm was amputated just below the surgical neck of the humerus. He was weak from loss of blood, and suffered great pain, which was controlled by anodynes. The patient made a good recovery and left the hospital four weeks after receiving the injury.

CASE III, COMPOUND FRACTURE OF RIGHT ARM, SCAPULA AND 2d, 3rd AND 4th RIBS.—J. L., aged 14 years, was jumping on and off cars in motion. His foot caught and he was thrown under the wheels. An hour later he was brought to the hospital. There was a lacerated wound on the front of the right wrist reaching from the base of the thumb half way to the elbow. The radial artery was torn and required ligation, the radius was separated from its lower epiphysis, the ulna was fractured two inches above its styloid process, the wrist joint was torn asunder and the os magnum was comminuted. The right humerus was broken transversely at the point of attachment of the deltoid muscle, a lacerated wound of skin and fascia one inch in length was on the posterior border of the axilla two inches above the inferior angle of the scapula. The finger inserted here detected fracture of the scapula and the second, third and fourth ribs. The anterior and posterior walls of right chest were deeply contused and the subcutaneous tissue contained effused blood and air. The pulse was 160 beats per minute, the respiration hurried and the face pinched and moist. The arm was enveloped in bi-chloride gauze, covered with cotton wool and laid on a pillow alongside the patient. Coffee, very strong, was given every half hour. As the circulation developed in the injured parts oozing was controlled by suspending the arm. Warmth gradually disappeared from the extremities during 36 hours and the patient died, never having rallied from the immediate shock.

CASE IV.—FRACTURE OF THE LEG THROUGH MIDDLE THIRD, DELIRIUM TREMENS.—Samuel —, car builder, was brought in the ambulance intoxicated. The police had found him in the street with his leg broken. How the accident occurred could not be learned. Tibia and fibula were fractured transversely through the middle third. A straight board splint was applied to each

side of the leg after being well padded with cotton and fixed with a roller bandage. Then the patient was put to bed with the leg tied in an excelsior pillow. The next day he had a subnormal temperature and was quite restless and would take no food. He was given a milk punch. Delirium, violent, came on that night and he had to be restrained in a cell.

He was given a pint of milk delivered into his stomach by means of a tube 18 inches long passed through the nose and pharynx into the œsophagus. A syringe was attached to this tube and the milk was slowly pumped into the stomach. He was fed in this way at intervals of once in four hours for two days. On two nights he was given 15 grains of chloral and one-quarter grain of morphine with the milk. He got sleep, his vomiting ceased, his delirium passed away and his fracture healed normally. The delirium and pulse and respiration in this case during the first 24 hours suggested fat embolism as a cause of the trouble, but subsequent events showed that the case was one of delirium tremens following simple fracture.

CASE V.—ABSCCESS OF BREAST, INCISION, INJECTION OF IODINE.—Mrs. T., aged 29, mother of four children, the youngest being three years of age, has menses regularly. A month ago a painful swelling made its appearance at the upper end of the areola of the right breast. It grew steadily until it reached the size of a hen's egg, and was very painful. There had been no activity of the mammary gland since the last confinement. There was no history of any injury. The swelling fluctuated. An incision was made into it and thick white pus and coagulated lymph were evacuated.

Strong tincture of iodine was injected into the cavity, a dressing of cotton fastened by a roller was applied. Recovery was uninterrupted.

CASE VI.—THE POTT'S FRACTURE OF THE ANKLE WITH LATERAL RECURRING DISLOCATION OF ASTRAGALUS.—Mr. J., German, aged 60 years was run down by a safety bicycle. His left fibula was broken two inches above the external malleolus. The astragalus was dislocated laterally beneath the malleolus. It would return to its abnormal position as fast as it could be replaced. It was secured in proper position by means of a thick pad of cotton placed on the outer aspect of the foot, on this was laid a straight wooden splint so padded that when applied over the fibula from foot to ankle no pressure could be made on the fracture. Then a starched roller was passed over the splint and leg so that pressure was brought to bear on the internal malleolus with enough force to hold the astragalus in its normal position. This dressing did not interfere with the circulation in the foot or leg and the patient recovered without the unsightly outward displacement that sometimes follows these cases.

CASE VII.—COMPOUND DEPRESSED FRACTURE OF SKULL, TREPHINED.—F. R., aged 26 years, a day laborer, got drunk and quarreled with one of his companions. A fight followed and he was struck four blows on the head with a coupling pin. Two of the blows crushed in the glabella a distance of three-quarters of an inch below the surface of the remainder of the frontal bone. He was brought to the hospital unconscious. His breath was loaded with whiskey, and had the depression not been so well marked the unconsciousness would have been attributed to the drink. He was trephined and the depressed bone was elevated to its normal position. He made a good recovery.

In performing the operation the crown of the trephine was placed so that it cut into the edge of the fracture. A button of bone three-quarters of an inch in diameter was removed. The elevator was inserted

through this opening beneath the depressed bone, the sound skull was used as a fulcrum and the depressed bone was pried up into position, drainage tubes were then inserted at each angle of the wound in the forehead, an antiseptic dressing was applied and a cathartic given.

CASE VIII.—FRACTURE OF THE VERTEX OF SKULL.—Mr. A. H., aet. 27, occupation bridge builder, was painting on a bridge, and while adjusting the scaffolding lost his balance and fell to the ground, a distance of some twenty feet. He struck the ground with his shoulder and head and sustained a compound comminuted fracture of the vertex of the skull. Was brought to the hospital where an examination revealed a marked depression and symptoms of compression of the brain. The trephine was applied and the depressed fragments raised. There was a loss of power to move the extremities which lasted for some days, although there was a constant and steady increase of the this power under daily treatment with electricity.

CASE IX.—LINEAR CRANIOTOMY.—Fritz S. aged three and a half years, was brought to the clinic at the hospital and his parents gave the following history. The little boy had been born with both fontanelles already closed by the complete ossification of the cranial bones. Since his birth his body has grown normally and he presented the usual appearance of a child of his age with the exception of his head which had increased but slightly in size. But little observation was necessary to discover that mentally he was far behind the point of development usually reached by children of his age.

It was decided to make the operation of craniotomy. The little fellow was anæsthetized, and the head having been shaved and made surgically clean, an incision was made about a half an inch to the left of

the median line of the head, extending from the frontal eminence backward to the occipital protuberance. Bleeding was controlled by catch forceps, the periosteum was carefully dissected back and the trephine applied over the coronal suture. A button of bone having been removed, bone forceps and chisel were brought into requisition and an incision through the skull was made about one-half of an inch in width, parallel to and somewhat longer than the incision through the scalp. The membranes and brain were, as felt through the incision, unusually hard and unyielding. The wound was sutured and antiseptically dressed, and the child is making a good recovery, with already some improvement intellectually.

CASE X.—FRACTURE OF UPPER THIRD OF THE FEMUR.—Mr. A. aet. — while working around some machinery was caught in the belting and whirled violently around. He was picked up and brought by the ambulance to the hospital, when it was found that he had sustained a fracture of the upper third of the right femur and of six ribs on the left side. The entire left side of his body was severely contused. The fractures of the ribs were treated with adhesive strips passed obliquely around the thorax, and that of the femur by extension and the application of splints and bandages. The ribs united without incident and later Buck's extension apparatus was applied to the fracture of the femur, the upper fragment of which showed a tendency to ride on the lower one. The case is still under treatment and gives promise of a favorable termination with but little shortening.

CASE IX.—APPENDICITIS.—DRAINAGE RECOVERY.—John B. was a log driver five years ago and in the execution of his work ran some of the heaviest drives that passed through the Muskegon River. This occu-

pation required splendid health and none of the river men were more distinguished in this respect than John. It was near the close of a busy season five years ago that John was seized with severe pain in his abdomen which was accompanied with and followed by vomiting of bilious matter. He had been treading a log the bark of which was too short and slippery to make his foot hold quite safe and he thought the exertion strained him.

A doctor was called to see him and pronounced his case bilious colic, caused by eating too much corned beef.

After taking the doctor's medicine and keeping quiet in bed for several days his pain passed off and he went about his labors as usual.

Nothing unusual occurred to him until about four months later at an end of a big drive he and some friends attended a dance. He drank, danced, fought a couple of times and had another attack of colic. This kept him in bed three weeks. Rest, morphine and cathartics again put him on his feet, but he never felt just right in the abdomen after that.

He had colic, as the doctors called it, every few months until he came to the hospital for treatment. His temperature was 101° F. He was emaciated, had a poor appetite and suffered pain in the ileocecal region.

He was given chloroform, and an incision was made through the abdomen three inches long parallel to the external border of the right rectus abdominis muscle. In the bottom of this wound adhesions were found between the cecum and parietal peritoneum. These adhesions were gently separated until a quantity of pus and fetid gas was reached when the pus cavity was carefully washed with peroxide of hydrogen, and drainage tubes inserted and the surrounding space packed with iodoform gauze. An antiseptic dressing was placed over this. The patient took daily a drachm of powdered sulphur and

twenty grains of carbonate of iron. The wound was dressed as above every three or four days for three weeks when it closed entirely and the patient was dismissed.

CLINIC FOR DISEASES OF THE CHEST.

BY SAMUEL BELL, M. D., PROFESSOR OF PHYSIOLOGY AND DISEASES OF THE HEART AND LUNGS, MICHIGAN COLLEGE OF MEDICINE AND SURGERY.

CASE I.—This young man presents himself at the clinic for diseases of the chest for the first time, is 26 years old, occupation, tobacco packer; family history, mother living, father died from dropsy, has five sisters and one brother, lost one sister from what was called consumption. His temperature at present is 102° F., pulse 86, resp. 22; was sick one year ago for three months from inflammatory rheumatism, but recovered and has pursued his regular work until a few days ago, losing flesh and strength accompanied with a general feeling of debility he left off work for a few days—hence his presence here for treatment—expecting to be able to resume his regular avocation again in a few days, also complains of some cough and expectoration. With this brief history we will now proceed to make a physical examination of the chest. You will observe at once that there is a decided difference in the muscular development of the chest. There is a depression in the infraclavicular region with unusual prominence of the ribs and a corresponding depression of the intercostal spaces of the left side. On the right side the pectoral muscles of the chest and the deltoid and biceps of the arm are well developed, no right infraclavicular depression can be noticed. Stethoscopic auscultation is almost negative, no rales dry or moist circumscribed or diffused can be detected at the present time. The respiratory murmur is very feeble over both fronts. The normal breezy inspiratory sound is very feeble in the right lung with a prolonged expiratory murmur in the left apex. A localized rale, mucous or subcrepit-

ant in the latter, would indicate "phthisis insipiens" but I fail to detect them. Percussion sounds are not uniform. You can detect by listening very attentively when I percuss lightly just below the clavicles of both sides a slight difference in the pitch, also in the quality of the sounds, but neither is very distinct, but when I percuss a little firmer the force of the stroke penetrates the deeper substance of the lung tissue a dull sound is distinctly audible over the left apex, over the same region on the right it is extra resonant.

Where there is a stratum of healthy lung superficial and the deeper structure is undergoing tubercular change you will not get dullness unless you percuss with a firm hand and with considerable force. When you find this condition it is indicative of pulmonary consolidation before there are any cavities or extensive shrinking of the lung. Diagnosis: While there is trace of phthisis in the family history it would not be considered distinctly hereditary. It is not unusual in this climate for a family of six or seven members to have one contract phthisis. But taking into consideration the family history, also the patient's own history together with the points brought out by the physical examination we feel justified in diagnosing this young man's trouble as the incipient state of acute phthisis. Notwithstanding some very important features in this disease are not present at this time. But we will watch the case and during the interim we will have him bring a specimen of his sputum expectorated in the morning and have it stained and examined microscopically for the bacillus tuberculosis. His gradual loss of flesh and strength and an indistinct history of night sweats all point towards the above condition. The development of the muscles of the right side of the chest and arm, I think, can be attributed to the nature of his employment, calling for continual use of the right hand and arm. It is a well

known physiological fact that when a muscle is in continual use it will develop to a greater extent than a part which is not undergoing exercise. We will prescribe the following :

R Creasoti, (Beechwood pure,) grs. xv.
Balsami Tolutani, }
Pix Liquida, } - aa grs. xxxv.

M et ft in capsules No. XX. Sig: One three times a day after eating.

During the last four years I have treated a great many cases of phthisis in all stages at my clinic here, also in private practice. If the drug is pure and properly administered I have yet to meet a case where there was not some improvement under its use, especially during the stage of consolidation before cavities have formed.

The nutrition of this patient must not be lost sight of. The retrograde change is going on too rapidly, expense is greater than repair, consequently his loss of flesh. For this feature in his condition we will put him on the following:

R Ol. Morrhuæ, - ʒ iii.
Pulv. Acaciæ, - ʒ iii.
Ol. Amygd, - m x.
Spts frumenti, q. s. ad ʒ vi.

M. Sig.: A desert spoonful in milk three times a day.

CASE II.—I wish to speak briefly of this case being unable to present him to you at present as he is too ill to be out. He is a young man 21 years old, sail maker by trade, has one sister living and one died about a year ago from phthisis, has two brothers living in fair health. This patient applied to me over a year ago for naso-pharyngeal catarrh, I examined him at this time for lung complication and found apex consolidation of the left lung with a rise in temperature. He remained under treatment for a few weeks and resumed work again. About one month ago I was sent for in great haste to see him as he had coughed up a large amount of blood. Although immediate remedies were used not until he had seven profuse hemorrhages, could I relieve him, he had the pale anemic appearance of an exsanguinated person. Hypodermatic injections of fluid extract of ergot, together

with the internal administration of hydrastine and gallic acid. The patient was put to bed and allowed to suck ice and the cough which was quite annoying was relieved by small doses of morphine. Examination of the chest at this time revealed cavities in the apices of both lungs with consolidation over a large area in the infra-mammary region. Creasote in this case would not be a safe remedy, it would act as an irritant to the bronchial mucous membrane constantly aggravating the very conditions which we were trying to alleviate.

CLINIC FOR DISEASES OF THE EYE AND EAR.

BY L. E. MAIRE, M. D., SURGEON, PROFESSOR OF OPHTHALMOLOGY AND OTOLGY IN THE MICHIGAN COLLEGE OF MEDICINE AND SURGERY.

CASE I.—Mrs. W., Canada, age 72.—Old dense opaque capsule of right eye. Left eye, exclusion of pupil from plastic exudation result of iritis following cataract operation, vision of right eye scarcely sufficient to allow of ordinary movements about the house with safety. A slight opening had been made in capsule some times ago to relieve the patient, but owing to a small central leucoma is of little service. The eye was cocainized, a keen sharp needle knife was passed through the cornea at about its outer edge, and holding the eye with fixation forceps in such a manner as to allow of a minimum of dragging on the capsular attachment, a large slight was made in the membrane clearing the opacity of the cornea. A weak solution of atropine was used. The eye made a good recovery, although troublesome owing to an attack of granular conjunctivitis supervening. She is able to go about now with great comfort to herself and friends.

CASE II.—Pupil occluded by a dense white opaque capsule.—D. McD., Canada. This patient had been operated upon some-

time previous in the hospital for senile cataract, successfully, but of late his vision has been much lessened by reason of the capsule. He were operated on in April, 1892. A sufficient opening was made in the margin of the cornea to admit of DeWecke's scissors which was carefully passed in, in such a manner as to grasp the membranes between the blades of the scissors, cutting a sufficient opening to admit light. This was followed up by atropine. The operation was entirely successful.—V-³⁰/₃₀.

CASE III.—Capsular cataract.—D. M., aged 30., Battle Creek, Mich. He had cataracts removed from both eyes about a year ago, had a needling operation of left capsule. He complains of poor vision of the right eye which is progressing. Examination with the ophthalmoscope shows opaque capsule. He was operated on March 5, 1892. The anterior chamber was illuminated by condensed light. A suitable needle knife was introduced near the limbus of the cornea, passing on to a point a little below the lower margin of the cornea, its cutting edge up. It is pushed through the membrane and made to cut upward, a sufficient opening being made to admit light. The eye was under the effects of cocaine. Atropine was instilled for a few days. He left the hospital in a week's time, able to read the daily paper.

The most important point to remember in all needling operations is to avoid too much dragging upon the capsular attachments, as there is great danger of setting up a violent inflammation of the ciliary body, with loss of the eye.

CASE IV.—Senile cataract of right eye.—Mrs. Y., aged 55, German, resident in Detroit. Operation May 4, 1892, consisting of Von Graefe's modified linear incision. Operation smooth. Some cortical matter remaining in lacerated capsule was

gently forced out by slight rotary pressure upon the upper lid. A drop of a solution of atropia is instilled into the eye. The lid closed by a strip of fine adhesive plaster. Pieces of antiseptic absorbent cotton placed over both eyes and a knit elastic bandage over all completes the dressing.

It is our custom not to remove the bandage for 48 hours after an operation for cataract, unless the patient complains of pain or uneasiness, and then only the dressing are removed, the lids separated slightly to allow the escape of tear fluid, which if retained will cause pain the first day or two after operation. If the patient complains of severe pain the first two or three days, we may have to deal with either a prolapse of the iris through the wound, or the most dreaded of all complications, ulceration of the cornea at the lips of the wound. These are unfortunate complications and call for prompt treatment. However, our case has no complaint to offer, the bandage is removed, and on inspection the second day the lids appear in a normal condition. A solution of atropine is instilled in the eye and the bandage replaced. This is repeated for a few days. This patient made an excellent recovery and left the hospital in ten days.

CLINICAL LECTURES.

PROF. O. S. ARMSTRONG, M. D., PROFESSOR OF OBSTETRICS AND DISEASES OF WOMEN, MICHIGAN COLLEGE OF MEDICINE AND SURGERY.

This patient, K. T., is 26 years old, and first menstruated at the age of 15. Menses regular until 4 years ago; at that time began having pain in right inguinal region, intensified at menstrual periods. About 4 years ago had an attack of acute general peritonitis, by which she was confined to her bed for a period of several weeks. Since then she has suffered most of the time and menses have been irregular, at times scanty and again very profuse. Latterly she has

been unable to walk or ride without suffering great pain. On examination I find the uterus partially fixed and the right tube and ovary enlarged. The case is undoubtedly one of salpingitis with a cystic ovary.

There is only one way of dealing with a pus tube, and that is to remove it. The patient has suffered so much that she is anxious to undergo the operation. She has been in the hospital several days and the bowels have been freely moved with saline purgatives. The patient has had a bath this morning, pubes as you see has been shaved, and the abdomen thoroughly scrubbed with hot water and soap. She has had an antiseptic vaginal douche and is now ready for the operation. While the anæsthetic is being administered we will again wash the abdomen with the bichloride solution 1 to 1000, and finally with an abundance of warm water rendered sterile by boiling.

The patient being now well under the anæsthetic I make incision in the median line about two and one-half inches in length. I cut rapidly through to the peritoneum and secure one or two bleeding points with the hemostatic forceps, catch up the peritoneum and divide it so as to readily admit two fingers. I find the right tube and ovary adherent, but am able with a little manipulation to free them, and pull them out through the incision. You see their size and abnormal condition. With this ligature needle I carry a double thread through the pedicle which my assistant siezes while I withdraw the needle. I now tie the ligature firmly on either side.

You will observe that I use a silk ligature and prefer one that is not too large. The smallest amount of foreign body left in the peritoneal cavity, compatible with safety from hemorrhage the better our success will be. I find the left tube and ovary in a healthy condition and as the patient is a young woman and desires to have a family I will

allow it to remain. Considerable difference of opinion exists as to whether this is good surgery, as it frequently happens that the remaining tube becomes diseased at a later period, thus necessitating another operation. When I find one tube and ovary apparently normal and metritis is not present I conform to the wishes of the patient. I will now introduce the sutures for the closure to the abdominal wound, taking care to raise the abdominal walls and make traction on either end of the suture so as to avoid catching the omentum. The dressing is completed by sprinkling iodoform freely over the line of incision, covering it with iodoform gauze and lastly a thick pad of absorbent cotton, held in place by a wide binder.

You will observe that I have not used a drainage tube as I think it is not indicated where no adhesions exist or where they are not extensive or followed by much oozing. The patient will now be wrapped in a warm blanket and taken to her room. I expect in this case a good recovery and but very little rise of temperature.

Mrs. B., aged 28, married, mother of three children, youngest $2\frac{1}{2}$ years old, has not menstruated for 5 months. Complains some pain over bladder and back, has slight headache and is constipated. Her appetite is good and she sleeps well, has no morning sickness but bloats after meals. Examination reveals a complete retroflexion. The patient was placed in the knee-chest position and uterus restored to normal position and tamponed with cotton placed in posterior fornix. She was instructed to lie on the base or side and was given a prescription of the following to relieve constipation:

℞ Hydragryri Chloridi mitis, gr. i.
Magnesii (English) ʒi.
M. et fiat chart No. xx.

Sig.—One after each meal.

Mrs. B., aged 40, married, mother of 6 children, youngest 5 year of age, had a miscarriage the ninth week, about three months ago, resulting from a fall. Since

that time she has been troubled with almost continually hemorrhage and as a result is now quite anæmic and weak. Her pulse is 100, temperature normal. She has pains in region of uterus and over sacrum. Examination shows an enlarged uterus and dilated os indicating that subinvolution has not taken place. I will introduce this dull curette and thoroughly scrape the uterine cavity and give her the following prescription:

℞ Vini Ergotæ ʒxi.
Fluid Hydrastis (colorless) ʒv.

Sig.—Take one teaspoonful three times a day.

This patient returned one week later. Hemorrhage had ceased and uterus had nearly regained its normal size.

THE BOOK SHELF.

THE POCKET PHARMACY, by John Aulde, M. D., Member of the American Medical Association, of the Medical Society of the State of Pennsylvania, etc. D. Appleton & Co., New York.

This book will recommend itself to the young practitioner, who finds himself (notwithstanding the knowledge of *Materia Medica* and *Therapeutics* which he acquired at college) unable to write a prescription with ease and grace under the anxious scrutiny of his patients. Under the heads of numerous remedies arranged alphabetically, are subheads of the affections in which each remedy may be used. The book is not a large one, the subject matter being confined to "emergency remedies" almost entirely. It is attractively published.

PRINCIPLES OF SURGERY, by N. Senn, M. D., Ph. D., Professor Principles of Surgery and Surgical Pathology in the Rush Medical College, Chicago, Professor of Surgery in the Chicago Polyclinic; attending Surgeon to the Milwaukee Hospital; etc., etc. F. A. Davis, Philadelphia and London.

This thorough and excellent work on the Principles of Surgery is destined to become one of the standard authorities on this subject. The text is everywhere terse and lucid, and is characterized by plainness and elegance of style. The chapters on inflammation, suppuration and

different forms of infection are valuable, setting forth the most advanced views of the students of these subjects. We think the eminent author may indeed feel abundantly rewarded for his labor, as he says in the preface he will feel "should this volume become the means of lightening and facilitating the student's work in gaining a thorough knowledge of the fundamental principles of surgery, and of serving as a useful source of information for the busy practitioner." The work is full of useful illustrations, and is a beautiful example of the publisher's skill.

A PRACTICAL MANUAL OF DISEASES OF THE SKIN, by George H. Rohē, M. D., Professor of Materia Medica, Therapeutics and Hygiene in the College of Physicians and Surgeons, Baltimore, Md., assisted by J. Williams Lord, A. B., M. D., lecturer on Dermatology in the College of Physicians and Surgeons, etc. F. A. Davis, Philadelphia. Physician's and Student's Ready-Reference Series.

This little book will prove of great value to the busy physician, and the student who desires to reach at once the cardinal points in symptoms and treatment without wandering through the mazes of speculative theory regarding the causes and pathology of the diseases under consideration. While the book is not a large one it is very thoroughly and carefully written and reflects great credit upon its author.

CONSUMPTION; HOW TO PREVENT IT AND HOW TO LIVE WITH IT, by N. S. Davis, Jr., A. M., M. D., Professor of Principles and Practice of medicine, Chicago Medical College; Physician to Mercy Hospital; etc., etc. F. A. Davis, Publisher, 1891.

This small work, as the author states in the preface, has grown out of a series of sanitary rules, which Dr. Davis prepared for his phthisical patients. The book gives evidence of a large amount of that quality which should be paramount in every physician—common sense. It is a very readable work and should be in the hands of many laymen as well as physicians.

THE DISEASES OF THE MOUTH IN CHILDREN, (non-surgical,) by F. Forchheimer, M. D., Prof. of Physiology, and clinical diseases of children, Medical College of Ohio; Member of Association of Amer-

ican Physicians, and American Pediatric Society, etc. J. B. Lippincott Co., Philadelphia, 1892.

This thorough little work on non-surgical diseases of the mouth in children will recommend itself to every practitioner, not only on account of its valuable subject matter, but also because of its systematic and convenient arrangement of subjects. The text is original, interesting and instructive. In the treatment of chronic catarrhal ulcers of the mouth he condemns the use of cocaine, never having seen good results from its use "and would hesitate to employ the very strong solutions (ten to twenty per cent) recommended."

DISEASES OF THE NERVOUS SYSTEM, by Jerome K. BAUDUY, M. D., L. L. D., Professor of Diseases of the Mind and Nervous System and of Medical Jurisprudence, Missouri Medical College, St. Louis, late Physician in Chief to St. Vincent's Institution for the Insane; Corresponding member of the New York Society of Neurology and Electrology; formerly Consulting Physician of the St. Louis Lunatic Asylum; member of the New York Medico-Legal Society, etc. J. B. Lippincott Co., Philadelphia, 1892. (Second Edition.)

The well known learning and reputation of Dr. Bauduy are alone a sufficient guarantee of the excellence of this volume, of which the second edition has been published by the Lippincott Company. The first four lectures treat of the cerebral circulation and its various disorders, the next seven of the different forms of meningitis, and the last eight of insanity. The entire work is characterized by elegance of diction and gives evidence of the great learning and originality of its distinguished author. The chapter on "Lesions from Ear Diseases" ought to be read by every doctor who treats the diseases of the human body. Its classification of the pathology of pachy-meningitis from ear diseases is superb and suggests at once the signs by which grave troubles may be diagnosed.

C. B. S.

FOLK-LORE IN MEDICINE.

Under the title of "Skatological Medicine," the British Medical Journal, June 11, 1892, editorially discusses this subject. Religious rites and folk-medicine are so intimately associated among primitive folk that it is impossible to study the one without learning much of the other.

If we commence the history of medicine with Hippocrates, we shall take but a partial and very imperfect survey of the origin and progress of our art. The teachings of anthropology and the increased attention paid to folk-lore throw so much light on many obscure practices connected with our profession that no man aspiring to be a cultivated and well informed student of medicine can well afford to neglect them. Occult influences have been everywhere ascribed to ordure and urine and other excrementitious remedies. Hair, human saliva, ear wax, human sweat, after-birth and lochia, catamenial fluid, human semen, human blood, brain, moss growing on human skulls, lice, the tartar from human teeth, renal and biliary calculi, human bile, bezoar stones, and a host of other disgusting "remedies" have been used from time immemorial, and some are used at this day as medicines for various ailments. Pills made from the dung of the Grand Llama of Thibet, are used as infallible antidotes to disease.

Dr. Mew, of the United States army, recently had the opportunity of analyzing some of them, and he stated that he found "nothing at all remarkable" in them. These sacred pills had been preserved in a silver reliquary, elaborately chased and ornamented, and they came into the possession of W. W. Rockhill, secretary of the Legation of the United States in Peking, through whom they were transmitted to Dr. Mew. Strange as this may seem to those who have not studied the subject, it is not at all remarkable to the ethnologist. Human and animal dung has always been a favorite medicine in some quarters of the world. Such things are never considered disgusting; the Grand Llama offers his excrement to a suffering world as a precious remedy, and the material is provided with great and solemn ceremonies and many prayers. It is not considered by any means a mere excrement, but as a symbolical alvine dejection, of miraculous virtue. From the days of

Pliny, the dung of almost every kind of animal has been used in medicine. Dog dung mixed with honey was prescribed for sore throat, and wolf dung as an anti-colic. Goat dung was considered of great value in tumor of the spleen, and cat dung for gout in the feet. Lion dung was an anti-epileptic, and mouse dung was used in the constipation of children. Dr. Jacob Hunerwolf, in 1694, actually wrote a treatise on mouse dung as a laxative, in which he very highly extolled the remedy. Human urine is considered in many places as a most valuable tonic medicine. Daniel Beckherius, in his "Medicus Microcosmus," published in London, in 1660, recommends a drink of one's own urine, taken while fasting, for obstruction of the liver and spleen, for dropsy and jaundice. The urine of boys was recommended in fevers, and a "spirit of urine" was distilled for the gout.

Boyle, the great philosopher, esteemed human urine so highly as a medicine that he declared that a full account of its virtues would fill a volume. Dr. Neale, in the Practitioner, November, 1881, p. 343 *et seq.*, wrote a paper on urine, and compared it with beef tea and Liebig extract. "Many writers have endeavored to impress the public and the profession with the true value of beef tea, namely, that it is not a nutrient but a stimulant, and that it mainly contains excrementative materials." Dr. Brown-Sequard's remedy for the invigoration of the aged and debilitated would not be considered at all remarkable by those savage Australians of whom P. Beveridge tells in his "Aborigines of Victoria and Riverina." Pliny mentions the use of human semen as a medicine, and Avicenna prescribed it for gout. Paullina advises the dirt from soiled stockings as a remedy for epistaxis (p. 52). Dried and powdered after-birth was used as an anti-epileptic, and secundines were used for the same purpose. The curious investigator of the odd proposals and practice of men of medicine and medicine men will find in Capt. Bourke's "Scatological Rites of all Nations" a vast amount of information on this and kindred subjects. He has compiled his great work from one thousand authorities, and, though not intended for general perusal, it is one that will interest and inform those at least who consider that the "proper study of mankind is man."—*The Medical Age*.

ANNOUNCEMENT
OF THE
MICHIGAN COLLEGE
OF
MEDICINE AND SURGERY
DETROIT, MICHIGAN.

1892—93.



SESSION OPENS ON TUESDAY, SEPTEMBER 27, 1892,
AND CONTINUES SIX MONTHS.

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Michigan College of Medicine and Surgery

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Professor Practical Pharmacy.

181 Second Street.

P. R. HAMLEN, M. D.,
Assistant in Clinic for Diseases of Children.

209 Lafayette Avenue.

ANNOUNCEMENT.

The Winter session of 1892-93 of the Michigan College of Medicine and Surgery will open on the last Tuesday in September at 10 A. M., and will continue for six months.

It is with pardonable self-gratulation that the faculty of this institution reports to its Board of Trustees the very remarkable encouragement which has been given them in their efforts to equip young men for the responsibilities of the medical practitioner. They feel, however, that they have thus far redeemed every promise made to unite in the most intimate relation practical and theoretical teaching. This they have been abundantly assisted to do through the facilities which have been placed at their disposal. The college is fully provided with the latest and most approved appliances, which, together with the abundance of clinical material to which it has access, has permitted a judicious combination of didactic with clinical appliances and clinical material, to the end that they may be prepared to enter at once on graduation upon the practical duties of their profession, and thus avoid the necessity of a subsequent clinical course, without which graduates who have not enjoyed such advantages must enter upon their life-work very seriously handicapped.

COURSE OF STUDY.

The course of study required for the session of 1892-93 extends over three years, with a voluntary fourth year.

The FIRST YEAR is largely occupied with work in the laboratories of Chemistry, Pharmacy, Physiology, Histology and in Dissection. The first year students will also attend clinical lectures in General Medicine and General Surgery. In the SECOND YEAR, in addition to didactic and clinical teaching, practical instruction is given in Medical Chemistry, Pathological Histology and Physical Diagnosis. Dissection is continued. Throughout the SECOND and THIRD years the student is required to attend the general medical and surgical clinics at the Emergency Hospital, and during the third year the clinics in special departments. Special *bedside* instruction in Clinical Medicine,

including Physical Diagnosis and Laryngology, in Surgery, Obstetrics and in Gynæcology, is given in the third year, as are also opportunities for the practical study of diseases of the eye, ear, throat and skin, and for acquiring proficiency with the various instruments employed. For this purpose, the third-year class is divided into sections, each of which receives direct personal instruction.

The course of instruction is so arranged as to permit mainly constant introduction of new material, while retaining the repetition of essential subjects aimed at by the older method. The laboratory instruction is so co-ordinated with the oral teaching as to illustrate the subjects of the lectures.

Advanced students are encouraged to make original researches in the laboratories of Pharmacy, Chemistry, Physiology, Pathology and Experimental Therapeutics and Surgery.

Such illustrations, in the way of drawings and demonstration, as the subject admits of or demands, will be given in the course of the lecture. Being impressed with the importance of frequent reviews of the subjects learned, as a means of fixing facts firmly in the memory, a part of each lecture hour will be devoted to "quizzing."

ADDITIONAL INSTRUCTION.

In addition to the required Course and to the voluntary fourth year, Clinics, both general and special, and Lectures, both Theoretical and Practical, are continued after Commencement until about June 20th. All subjects connected with the fundamental departments of medicine, or with its several subdivisions, as determined by usage, are thoroughly taught in one or other of these courses; and it is strongly urged upon all students, especially those of the second and third years, to continue their studies during the spring and summer, and, by all means, to pursue the studies of the fourth year,

Among the institutions to which the students of this college have *entree*, are the Emergency Hospital, the Free Dispensary in the college building, the Detroit Eye and Ear Hospital, the Obstetric Clinic, the Clinic for Venereal diseases, the Clinic for Gynæcology, the Clinic for diseases of the Skin, the Clinic for diseases of the Nose and Throat, the Clinic for diseases of the Mind and Nerves, Clinic for diseases of Children and Clinic for diseases of the Thorax.

THE EMERGENCY HOSPITAL.—This Hospital is situated on the college grounds, the upper stories of the main building being divided into wards and single rooms. It is especially constructed and equipped to exemplify the benefits of the antiseptic treatment of disease. An ambulance service is maintained exclusively in connection with the hospital, thus furnishing the students of this college an opportu-

ity both to witness the primary treatment of injuries and to perfect themselves in the details of dressing, nursing and after-treatment.

DETROIT EYE AND EAR HOSPITAL.—The trustees of this hospital have secured temporary quarters in Emergency Hospital. It is fitted up with a view to special work in this department. Suitable and comfortable wards have been arranged for the isolation and treatment of surgical eye and ear cases, under the supervision of the Professor of Ophthalmology and Otology.

The Detroit Eye and Ear Hospital is the first of its kind in the State of Michigan, and is an outgrowth of the "Free Eye and Ear Infirmary" so long established at the Emergency Hospital. Hundreds of cases are treated annually, and many operations performed. Clinics are held daily; operations are performed before the classes daily.

THE FREE DISPENSARY.—In this dispensary the large amount of clinical material which presents itself is systematically classified according to the diseases, and assigned to different rooms. The students are required to make such personal examination of the patients coming to this dispensary, as is necessary to properly instruct them in the science and art of diagnosis. The training of the senses in the formation of a diagnosis, will be a special feature of instruction in this dispensary. Students will here also be furnished with an opportunity for practice in the art of prescription-writing, all prescriptions being subject to revision by the clinical instructor in charge.

The students are expected to serve a brief apprenticeship in the drug room of the dispensary where they learn to become familiar with the physical properties of medicines, and to dispense them in neat and palatable form. Professor Pitcher gives the dispensary his personal attention and trains the student in the identification of drugs. Students taking the course in Pharmacy also work in the dispensary and manufacture many of the medicines that enter into the prescriptions that are put up there.

THE OBSTETRIC CLINIC, established by the Trustees in connection with the Detroit Emergency Hospital, is under the management of Prof. Gunsolus. It provides unexcelled opportunities for the study of Obstetric Medicine and Surgery.

During last Winter's session this Clinic provided every student in the third year class actual experience in Obstetrics, and the care of the young infant. It is desirable that third year students find places of residence as near the College as possible, that they may always be within easy call of the Obstetric Clinic.

THE VENEREAL CLINIC is held daily at the Emergency Hospital. It

embraces all types of venereal infection and in such numbers that the student has constantly before him infallible object lessons in cases difficult to diagnose. He is expected to actually treat these cases and become familiar with the manual use of the instruments used in the treatment of these diseases.

THE GYNÆCOLOGICAL CLINIC is held daily at 11 o'clock, a. m., under the direction of Prof. Armstrong and Dr. MacQuisten. Every variety of physical feminine infirmity is to be found in this Clinic, and the student is taught to cultivate the *tactis eruditis* and to develop the clinical history of the patients in writing. He assists in all the operations of this department.

THE CLINIC FOR THE DISEASES OF THE SKIN has been lately established and is placed under the charge of Prof. Smith. It is already in a very flourishing condition, and bids fair to become the most frequented clinic in the city. Actual disease is shown along with photographic plates made by the most distinguished dermatologists in the world, giving the student the best possible opportunity to learn the art of distinguishing a class of diseases which frequently cause the medical man no little annoyance. All cases are carefully watched so that the student has a chance to learn the results of treatment, be they either immediate or remote.

THE CLINIC FOR DISEASES OF NOSE AND THROAT, has been under the management of Prof. Willard Chaney ever since its organization. It is supplied with all the modern apparatus and appliances, used in the conduct of this very important and rapidly growing specialty. Students learn the use of the galvano-cautery in the treatment of the diseases of the nose and throat by actual practice.

THE CLINIC FOR DISEASES OF THE MIND AND NERVES. Two years ago the trustees saw the need of better practical instruction in the diseases of the mind and nerves than Students of medicine generally were getting. They also recognized the fact that a large amount of material in the form of acute-mania, alcoholism, suicidal and homicidal phases of mental diseases were constantly coming and going in the ambulance service of the Emergency Hospital, and determined to utilize this material for the benefit of medical science and skill. They established the Clinic and called Dr. William R. Scurr to preside over it. Not only does the Clinic afford an opportunity to the Student to witness the sundry phases of the mind diseased, but he can also attend the Probate Court for the County of Wayne, held in the City Hall, and witness the legal process by which one is adjudged insane. These lunacy trials as conducted under Michigan laws are very instructive to medical students. This is

probably the only mind and nerve clinic in the country, in which the actual relations of the man with diseased mind to the community in which he lives are considered in their legal features.

THE CLINIC FOR DISEASES OF CHILDREN is conducted by Prof. W. I. Hamlen. It is held every morning at 10 o'clock, and is much frequented by the children of the indigent.

Here the Student has opportunity to become acquainted with the little ones and to win their confidence and relieve their sufferings.

THE CLINIC FOR DISEASES OF THE CHEST. This Clinic is under the direction of Professor Bell. In it are treated many cases of diseases of the heart and lungs. The Student is taught to detect by auscultation of the diseased chest the sounds indicative of the disease. A feature of the work in this Clinic is the training in auscultation and percussion with especial reference to their use in making examination for life insurance organizations.

THE GENERAL MEDICAL CLINIC is conducted by Professor Parker. Cases of all kinds of acute disease are presented before the students and the treatment of each case carefully explained. The advanced student is given in this clinic opportunity to examine cases for himself, and to report his diagnosis and his ideas of treatment.

Students are admitted to all of the above clinical privileges without extra charge.

ARRANGEMENT OF SESSIONS.

The College Year is divided into two Sessions: 1st, the WINTER SESSION, on which alone attendance is required, and, 2d, the SPRING SESSION.

The SPRING SESSION, 1893, begins Monday, April 3rd, and continues until 20th day of June.

The WINTER SESSION, 1892-93, begins on Tuesday, September 27th, and ends at Commencement last week in March.

PRACTITIONER'S SESSION is open during the entire College year.

PHARMACY COURSE commences first Monday in October.

Students are earnestly requested to be in attendance at the beginning of the Session, as later entrance is attended with great disadvantage.

LABORATORY INSTRUCTION.

PRACTICAL CHEMISTRY.—The laboratory used for instruction in practical chemistry is under the direction of Prof. Hamlen. It is well fitted and arranged to illustrate the lectures on chemistry. The student, while at work in the laboratory, becomes familiar with chemical apparatus, materials, processes and reactions. He has a desk and chemicals for his own use and is supplied with all necessary apparatus. With this practical instruction is combined a study of the principals of theoretical chemistry, chemical notation, nomenclature, etc.

TOXICOLOGY.—The study of toxicology by means of experiments on animals is carried on in this laboratory under the direction of Professor Hamlen and Dr. Hough. The student is taught to recognize the poisonous effects of certain drugs by their actions on animal life and to apply antidotes, and to detect the poison in animal structures by chemical agents.

HISTOLOGY, MICROSCOPY, BACTERIOLOGY.—The laboratory work in these subjects is carried on by means of fresh and preserved specimens of animal tissues, which the student treats with the various staining fluids in the process of preparation for study with the microscope. Dr. George W. Leuschner has charge of this work and provides the student with the necessary appliances and directs him in their use.

PATHOLOGY.—Practical pathology is taught by post mortem examinations, which are usually conducted at the **MORGUE** near the college. The student is expected to become familiar with the structure of tumors and the minute changes which take place in animal tissues as a result of disease, by making microscopical examinations.

PHYSIOLOGY.—Practical physiology is taught by researches upon living lower animals when that method is best for conveying information in regard to the functions of the various organs of the body. The student is furnished an opportunity to advance his knowledge of physiology by becoming familiar with the methods of research by which the great facts of physiology were discovered. Professor Bell and Dr. Meddaugh conduct the work in experimental physiology. Students taking this laboratory course will be carefully quizzed on all the subjects investigated.

SURGICAL LABORATORY.—The college maintains a course of experimental surgery which is directed by Prof. Wyman and Dr. Storrs. In this course the student is taught to carry out the operations on lower animals by which the principles of abdominal, intestinal and brain surgery are taught.

EXPERIMENTAL THERAPEUTICS.—The work in this laboratory course is conducted under the direction of Prof. Pitcher, Dr. Newell and Dr. Foster. It consists in a study of the action of drugs by experiments on the lower animals and by careful observation of the recorded facts touching the action of medicines on man.

REQUIREMENTS FOR ADMISSION.

The candidate for admission to this college who presents a diploma from a literary or scientific college or high school, or a first-grade teacher's certificate, will be received without examination. Lacking such diploma or certificate he will be subjected to an examination before a committee of the Faculty, in the branches of a good English education.

Candidates who have matriculated in other medical colleges in good standing will be admitted on the certificate of such matriculation, and without further examination.

REQUIREMENTS OF GRADUATION.

The candidate for graduation must have attained the age of twenty-one years, and be of good moral character, which includes unexceptionable conduct while at the college. He must also have devoted four years to the study of medicine, during which he must have attended three full courses of lectures in some regular medical college, the last of which courses must have been attended at this college. On presenting satisfactory evidence of compliance with the above requirements, in the form of preceptor's certificate (the preceptor being a reputable physician) and tickets of attendance on at least three full courses, he will be admitted to examination, upon his successful passing of which, and the payment of the required fee, he will be entitled to the degree of Doctor of Medicine, at the hands of the Board of Trustees.

Graduates of other medical colleges in good standing, who may desire to secure the diploma of this college, will be required to attend one full course of lectures, and at the end of which to pass a satisfactory examination in Clinical Medicine, Surgery, Obstetrics and Gynaecology.

ADMISSION OF WOMEN.

Women are admitted upon the same terms as men. A separate dissecting room is provided for them. Outside of this all the college work is co-educational.

CERTIFICATE OF TIME.

The Secretary issues a certificate of the time actually spent in attendance upon the lectures and other departments of the college work. Before receiving this certificate the student must present the Treasurer's receipt showing that all fees are paid.

FEES REQUIRED.

Matriculation, annually.....	\$ 5 00
Lectures, each term.....	50 00
Anatomy, dissecting, each course.	10 00
Chemistry, laboratory "	10 00
Graduation fee.....	25 00

PRACTITIONERS' COURSE.

All departments.....	\$50 00
Single "	25 00

PHARMACY DEPARTMENT.

Full course.....	\$25 00
Graduation.....	5 00

OPTIONAL COURSES.

Experimental Therapeutics.....	\$10 00
Physiological laboratory.....	10 00
Surgical laboratory.....	10 00

All fees must be paid to the Treasurer. No notes or discounts will be taken. No fees will be returned without the consent of the Trustees.

No extra charge for admission to any of the hospitals or dispensary clinics mentioned in this announcement.

A perpetual ticket (not transferable) giving the holder the privilege of attending an indefinite number of courses, will be sold for \$125.

SELECTION OF SEATS.

Students will be permitted to select seats in the amphitheatre in the order in which their fees are paid and the tickets issued.

BOARD AND LODGING.

The cost of living need not be materially greater in Detroit than in much smaller places. Good accommodations, including meals, can be secured at prices ranging from \$4 to \$6 per week, while, should strict economy be necessary, the student's expenses can be kept considerably below these figures. The clerk of the college will be prepared with a list of desirable boarding houses, and will gladly assist students in their selection.

SPRING RECITATION COURSE, 1893.

The spring or preliminary course of the college, which will be especially devoted to clinical instruction and recitation, will open on the 3rd of April, 1893, and will close on the 20th of June.

While attendance on this course is not obligatory on the student, the Faculty nevertheless urge the desirability of his availing himself of its privileges. Especial pains will be taken during this course to familiarize the student with practical medicine, and to further assist him in the application of the theory to which the regular course is, necessarily, quite largely devoted.

The fee for the spring course will be \$10, which amount will be credited against the fee for the next succeeding regular session.

PRACTITIONERS' COURSE.

The Trustees recognize the demand made upon the colleges of the country for good post-graduate work, and have established a Practitioners' Course. The demands made upon the physicians living nowadays are so much greater than they were ten years ago that many men who completed their studies a decade ago find them-

selves inadequately equipped for the responsibilities of modern practice. These men, always among the most progressive physicians in their communities go to the colleges to brush up and take the clinical and laboratory instruction. The clinical and laboratory facilities of the Michigan College of Medicine and Surgery are well adapted to the needs of busy practitioners who cannot leave their home work for more than a few weeks or months. The work in the Practitioners' Course is so arranged that physicians may enter it at any time and leave when he thinks best. The teaching is made thoroughly practical in the following branches: *Surgery, Practice of Medicine, Obstetrics, Gynecology, Diseases of Children, Diseases of the Nervous System, Venereal Diseases, Diseases of the Skin, Laryngology and Otology, Thoracic diseases.*

There is no quizzing or examination in the Practitioners' Course. The instruction is largely practical, and consists more of training the physician in methods than in precepts. A certificate is given setting forth the fact that the one whose name is therein inserted has taken instruction and practical training in the subjects mentioned above.

The fees for the Post Graduate or Practitioners' Course are, for all the subjects, \$50; single subject, \$25.

TEXT-BOOKS.

For the guidance of the student in his selection of text-books, the following list of those most in favor by Faculty is given. The reproduction of this list does not, however, by any means imply that there are not other equally good works which are not enumerated therein:

ANATOMY.—Gray, Holden.

PHYSIOLOGY.—Dalton, Flint, Foster.

HISTOLOGY.—Satterthwaite, Frey.

PATHOLOGY.—Billroth, Green, Rindfleisch.

CHEMISTRY.—Witthaus, Attfield, Fowne.

MATERIA MEDICA AND GENERAL THERAPEUTICS.—Bartholow, Ringer, Woods, Stille.

SURGERY.—Bryant, Agnew, Wyeth, Gross, Wyman.

PRACTICE OF MEDICINE.—Loomis, Roberts, Fagge.

OBSTETRICS.—Lusk, Playfair, Leishman.

DISEASES OF CHILDREN.—Smith, Day.

DISEASES OF WOMEN.—Skene, Thomas, Emmet.

PHYSICAL DIAGNOSIS.—Loomis, DaCosta.

MICROSCOPICAL ANATOMY.—Stricker, Frey's Compendium, Schaefer.

OPHTHALMOLOGY.—Wells, Juler, Nettleship.

DERMATOLOGY.—Geo. H. Fox, Anderson, Duhing, Robinson.

VENEREAL DISEASES.—Bumsted and Taylor, Keyes.

LARYNGOLOGY.—Cohen, Mackenzie, Sajous.

MEDICAL JURISPRUDENCE.—Wharton and Stille.

HYGIENE.—Buck, Park.

NURSING.—Weeks, Fullerton.

For any further particulars which may be desired, address

WM. I. HAMLEN, M. D., Secretary of Faculty,

209 Lafayette Avenue,

DETROIT, MICH.

DETROIT EMERGENCY HOSPITAL TRAINING SCHOOL FOR NURSES.

This institution was organized to supply in a measure the want which exists for properly trained nurses of either sex who are constantly needed to carry out the plans of the physician who treats disease. It has been in successful operation since the foundation of the hospital, but has thus far given instruction to women mainly.

The scheme of the instruction in the training school contemplates qualifying the nurse for the higher branches of her profession which embrace the principles of institutional management. The nurse is expected to become thoroughly proficient in bedside work by actual training, and to know how to provide the sustenance and attendance, the cleaning, laundry, and amusements for a large number of patients.

Some of the graduates have already distinguished themselves in administrative ability, which quality, although not absolutely necessary in the caring for the sick, *per se*, is certainly a valuable, if not indispensable collateral knowledge.

The nurses in this Hospital are instructed in caring for surgical cases, women during and after confinement, and in all acute and chronic diseases which may enter the Hospital.

RULES FOR THE ADMISSION OF PUPILS TO THE TRAINING SCHOOL.

I. Application for admission to the School must be made to the Superintendent of the Hospital.

II. Candidates must be over twenty-three and under thirty-five years of age, and must send answers to the list of questions, testimonials (one of which must be from a lady), certifying to their good moral character; also a certificate of health.

III. Applicants will be received for one month on probation, at the end of which time the Superintendent will decide as to their fitness for the work.

IV. Accepted candidates will sign an agreement to stay in the School two years. During the first, they will serve as assistants in the wards; and during the second, either in the wards or nursing outside, as the Superintendent thinks fit. For outside work they will receive five to ten dollars a week.

V. Superintendent can at any time discharge them for misconduct or inefficiency. All cases of gross misconduct will be brought before the Faculty of the College of Medicine and Surgery.

VI. Pupils will receive board, lodging, medical and attendance, free. This, with their education, is considered a full equivalent for their services.

VII. Pupils must provide uniform, white cap and apron.

VIII. The instruction consists:

1. *Ward work, including bed-making, change of patients' position and linen, cleanliness of patients and utensils. Keeping ward or room tidy and clean.*

2. *Making, application and administration of various remedies, such as poultices, fomentations, etc.*

3. *Use of baths, friction, etc.*

4. *Attendance on doctors, dressing of wounds and bandaging, padding splints.*

5. *Observation on general condition of patients with regard to appetite, skin, secretions, appearance of eruption, chill and fever, etc.*

6. *Method of observing and recording temperature, respiration and pulse.*

7. *Preparing patients for examination.*

8. *Preparation for surgical operations.*

9. *Lectures and class instruction.*

IX. A diploma will be granted at the end of the course, after a satisfactory examination.

X. Nurses will be required to obey the rules and regulations of the Hospital.

DEPARTMENT OF PHARMACY.

TRUSTEES.

WILLIAM DUPONT, President, DAYTON PARKER, M. D., Vice-Pres.
 A. W. ALLEN, CHAS. E. BLEAKLEY, M. D.
 HAL. C. WYMAN, M. D., Treas., W. S. JOHNSON,
 W. I. HAMLEN, M. D., Sec'y, HENRY C. HISNER.

FACULTY.

WM. I. HAMLEN, M. D.,
 Professor of Organic Chemistry and Toxicology.

ZINA PITCHER, M. D., SEC'Y.
 Professor of Materia Medica.

CHAS. E. BLEAKLEY, M. D.,
 Professor of Theoretical Pharmacy.

FRANK S. HOUGH, M. D.,
 Lecturer on Botany.

SHELDON PITCHER, M. D.,
 Lecturer on Inorganic Chemistry.

A. AHLBORN, M. D.,
 Lecturer on Practical Pharmacy.

SCHEDULE OF LECTURES.

DEPARTMENT OF PHARMACY.

Time.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
7 to 8 P. M.	Chemistry and Toxicology, PROF. HAMLEN	Practical Pharmacy, PROF. ALHBORN.	Chemistry and Toxicology, PROF. HAMLEN	Practical Pharmacy, PROF. ALHBORN.	Chemistry and Toxicology, PROF. HAMLEN.	Practical Pharmacy, PROF. ALHBORN.
8 to 9 P. M.	Materia Medica, PROF. ZINA PITCHER.	Botany, PROF. HOUGH.	Materia Medica, PROF. ZINA PITCHER	Botany, PROF. HOUGH.	Materia Medica, PROF. ZINA PITCHER.	Botany, PROF. HOUGH.
9 to 10	Theoretical Pharmacy, PROF. ALLEN.	Chemistry, PROF. S. PITCHER.	Theoretical Pharmacy, PROF. ALLEN.	Chemistry, PROF. S. PITCHER.	Theoretical Pharmacy, PROF. ALLEN.	Chemistry, PROF. S. PITCHER.

This arrangement will give 3 lectures per week upon each subject, making in all 18 lectures per week, or a total of 576 lectures in the course.

DEPARTMENT OF PHARMACY.

The course opens on the first Monday in October and continues during a period of eight months. The lectures will be delivered in the evenings, although students who desire it will be furnished work during the day.

The subjects comprised in this course of instruction, are Theoretical Pharmacy, Materia Medica, Botany, Chemistry, including Toxicology; Practical Pharmacy, including Dispensing and Compounding of Prescriptions, Identification of Drugs, Pharmaceutical Compounds, etc., etc.

The teaching will largely be directed to preparing students for the State Board Examination, as one of the requirements to obtain our Pharmaceutical Diploma is registration before the State Board of Pharmacy.

The fees for the course are \$20 and \$5 for the diploma.

REQUIREMENTS FOR GRADUATION.

1st. A certificate of registration before the State Board of Pharmacy.

2d. The candidate must be 18 years of age, good moral habits and must present evidence of at least two years study, one full course of lectures at this college and must pass a satisfactory examination.

GRADUATES IN PHARMACY, 1891-92.

NAMES.	RESIDENCE.	NAMES.	RESIDENCE.
Bertram, B.	Michigan	Kaisman, O.	Michigan
Bryan, A. R.	"	Lamb, B.	"
Breitenbach, A. R.	"	Latour, Wm.	"
Blair, C. A.	"	McAllister, W. H.	"
Dupont, W. S.	"	Martimer, Wm.	"
Fischer, C. P.	"	Van Vliet, M.	"
Gregg, W. S.	"	Von Nostis, Geo.	Ontario
Hays, Frank.	"	Von Nostis, Eni.	"
Kincaid, K.	Ontario	Wing, Edw.	Illinois

MATRICULATES IN PHARMACY.

NAMES.	RESIDENCE.	NAMES.	RESIDENCE.
Burkhardt, P. A.	Michigan	McGurtoride, Hugh.	Michigan
Bromley, E. W.	"	McKay, Wm.	Ontario
Dedenbach, Henry.	"	Riddell, Wm.	"
Dresh, Walter.	Ohio	Rice, H. J.	Michigan
Hollister, R.	Michigan	Stanton, Turner.	"
Howard, J. E.	"	Sweet, E. D.	"
Hamlen, P. R.	Ontario	Schon, Edw.	Ohio
Koeding, Julius.	Michigan	Titus, Arthur.	Ontario
Krowenitz, Frank.	"	Thomas, Wm.	Michigan
Love, Frank.	"	Hodges, B.	"
Bach, Wm.	"	Northcote, E.	"
Kelly, J.	"	Widdy, A.	"
Savage, H. M.	"		

GRADUATING CLASS, 1892.

NAMES.	RESIDENCE.	PRECEPTOR.
Hamlen, P. R., President.....	Michigan.....	Dr. Hamlen.
Milligan, E. T. Vice-president.....	Canada.....	Faculty
Cassidy, M., Sec'y and Treas.....	Virginia.....	Dr. Atkinson
Blair, C. A., Valedictorian.....	Michigan.....	Dr. Wyman
Annes, C. J.....	Michigan.....	Faculty
Bertram, B.....	".....	Dr. Hamlen
Bechtol, E. A.....	Ohio.....	Dr. Bachus
Bennet, E. A.....	".....	Faculty
Cooper, R. W.....	Ontario.....	Dr. Baxter
Cornell, E. A.....	Michigan.....	Dr. Cornell
Dunn, F. C.....	".....	Dr. Wiggins
Foster, W.....	".....	Dr. Marshall
Foster, A. M.....	Canada.....	Faculty
Fritz, P. L.....	Michigan.....	Dr. Denning
Gregg, W. S.....	".....	Faculty
Hamlen, R. J.....	".....	Dr. Hamlen
Kergan, J. A.....	".....	Faculty
Kergan, W. W.....	".....	Dr. Wyman
Keith, W.....	".....	Faculty
Leadbeater, M. S.....	Canada.....	Dr. Maire
Leuschner, R.....	Michigan.....	Dr. Hamlen
Leuschner, G. W.....	Germany.....	Faculty
Ladouceur, E.....	Michigan.....	Dr. Parker
Meddaugh, M. V.....	".....	Faculty
McBrayen, A. M.....	".....	Dr. Dakin
Oderkirk, G.....	Ontario.....	Dr. Pomeroy
O'Donnell, D.....	".....	Faculty
Ransier, S. J.....	Michigan.....	Dr. Smith
Squires, J.....	Indiana.....	Faculty
Snell, R.....	Michigan.....	Faculty
Storrs, C. B.....	".....	Dr. Wyman
Titus, A.....	".....	Dr. Hamlen
Young, W. G.....	".....	Dr. Gardner

MATRICULATES, 1891-92.

NAME	RESIDENCE.	PRECEPTOR.
Aarons, J.....	England.....	Faculty
Annes C. J.....	Michigan.....	Faculty
Artz, C. H.....	Ohio.....	Dr. Ohlinger
Bach, Wm.....	Michigan.....	Faculty
Bacon, E. K.....	Michigan.....	Drs. Cope and Wyman
Ballard, W. R.....	Ohio.....	Dr. Beard
Bates, R. E.....	".....	Faculty
Bennett, E. A.....	".....	Faculty
Bertram, B.....	Michigan.....	Dr. Hamlen
Blair, C. A.....	".....	Dr. Agman
Bertram, J. L.....	".....	Dr. Hough
Bobertz, G.....	".....	Dr. Oldfield
Benner, J. D.....	".....	Dr. Oderkirk
Bechtol, E. A.....	Ohio.....	Dr. Bachus
Bird, C. A.....	Michigan.....	Dr. Smith
Blackwell, J. A.....	".....	Faculty
Bodine, J.....	Ontario.....	Dr. Smith
Bromley, E., Ph. C.....	Michigan.....	Dr. Hamlen
Bruce, F., M. D.....	".....	Faculty
Burgess, M.....	".....	Faculty
Burger, J. E.....	Ontario.....	Dr. Prieto
Colbath, W. E.....	Michigan.....	Dr. Wyman
Curtis, J. B. F.....	".....	Dr. Thompson
Clark, E. D.....	".....	Dr. Scurr

Carter, N.	"	Dr. Butler
Crosby, S. J.	Canada	Dr. Prineast
Clark, W. B.	Michigan	Dr. Eaton
Cooper, R. W.	Ontario	Dr. Baxter
Cassidy, M.	Virginia	Dr. Atkinson
Cunningham, H. L.	Ohio	Dr. Bird
Casey, J. H.	Michigan	Faculty
Collins, F. P.	"	Dr. Gunsolus
Cornell, E. A.	"	Dr. Cornell
Dorr, T. W.	"	Faculty
Dean, D.	"	Dr. Going
Dunn, A. T.	"	Faculty
Dunn, F. C.	"	Dr. Wiggins
Doying, J. O.	"	Faculty
Foster, W.	"	Dr. Marshall
Foster, A. M.	Canada	Faculty
Fritz, P. L.	Michigan	Dr. Denning
Frank, S.	"	Faculty
Fralick, G.	"	Dr. Bell
Fralick, F.	Ontario	Faculty
French, G. R.	"	Dr. S. Pitcher
Grigg, A.	Canada	Dr. Mitchell
Gregg, W. S.	Michigan	Faculty
Gregory, E. H.	"	"
Halls, G. P.	Canada	"
Henderson, L.	"	"
Hamlen, R. J.	Michigan	Dr. Hamlen
Hamlen, P. R.	"	Dr. Hamlen
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Jahns.	"	Dr. Parker
Jahn, J. D.	"	Dr. Wyman
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Keith, W.	"	Faculty
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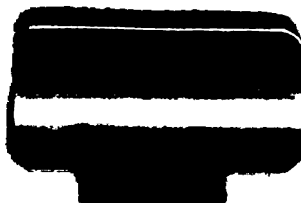
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